



**TRURO
SCHOOL**

Guide to 4th and 5th Year Curriculum and Examination Options

**for teaching
September 2021**

**and first examination
Summer 2023**

Contents

Section	Page
GCSE Options	
Introduction	3
Subject Choice	4
Advice on Choices	6
Transition from 3 rd Year to 4 th Year	7
Curriculum Subject Details	
Art and Design	9
Computer Science	10
Design and Technology	11
Drama	13
English Language and English Literature	14
Geography	15
Geology	17
History	18
Mathematics	20
Modern Foreign Languages: French, German, Spanish	21
Music	22
Physical Education	24
Religious Studies	25
Sciences: Biology, Chemistry, Physics	26
Appendix: Frequently Asked Questions	31

Introduction

By the middle of the Spring Term, 3rd Year pupils select courses for study in the 4th and 5th Year. To help prepare for the choices we have a GCSE Options Evening for parents and an *Inspiring Futures* careers day for pupils which includes workshops and GCSE taster sessions. This Curriculum Guide covers all the information required to help make the choices, along with further information about the compulsory core subjects.

The principles behind a Truro School education are that the curriculum should, as far as possible, be centred on the individual pupil while still providing a good foundation for future study and career opportunities. The aim is therefore to preserve a core of compulsory subjects whilst allowing flexibility of choice over a range of optional subjects.

The School motto is *Esse Quam Videri* – to be, rather than to seem to be. This highlights the importance of pupils selecting options that reflect their interests, their passions and their skills and abilities. The most important factors for pupils in making their choices are their enjoyment of the subject and the potential for academic success. Pupils must not select subjects based on hoping to be taught by their favourite teacher, as the complexity of fitting timetables prevents us from promising this.

The first section of this guide describes the curriculum structure, including the compulsory core and the options, with advice on how to make sensible choices from those options. There will be optional subjects that pupils will not have studied before: Computer Science (this is distinct from the lower school ICT courses), Geology and Physical Education. These should not be overlooked because they are unfamiliar; equally, pupils should not choose them simply because they are novel. This guide provides sufficient detail to help pupils make an informed choice about these new subjects and this is supplemented by Heads of Department talking to the 3rd Year pupils before the options deadline.

We are always very happy for parents to contact us directly to discuss subject selection or to ask questions about our curriculum structure. Feedback and suggestions are always welcome.

Based on previous discussions with parents and pupils, there is a set of Frequently Asked Questions with answers in the Appendix to this Curriculum Guide.

Shaun Pope

Deputy Head (Academic)
skp@truroschool.com

Mark Vanstone

Director of Studies
mv@truroschool.com

Subject Choice

How many subjects do pupils study?

The norm is to study for ten GCSE/IGCSE qualifications. The compulsory core provides six of these, enhanced with four guided options, achieving a good balance between breadth and depth. We are more concerned about giving pupils the opportunity to excel with the quality of their results than with the quantity. The co-curricular opportunities we offer are also of high value and we believe pupil well-being is enhanced if we provide time for enriched experiences inside and outside the classroom.

Summary of the GCSE Curriculum

Compulsory Subjects: English Language, English Literature, Mathematics, Combined Science (equivalent to two GCSEs) and Religious Studies.

Options: Pupils choose a maximum of FOUR options. This provides flexibility to cater for those pupils who are more inclined towards studying the Humanities, Modern Foreign Languages, the Creative Arts or Sciences.

For a balanced curriculum, pupils are recommended to select at least one Humanity, one Modern Foreign Language and one Creative Arts subject. We will also aim to be flexible and consider variations to this guided structure according to the interests, skills and ability of individuals. Note that it is possible to study more than one Humanity, more than one Modern Foreign Language, more than one Creative Arts subject or more than one Science option.

Four Options selected from the following guided structure
1.Languages
French
German
Spanish
2.Humanities
Geography
History
3.Creative Arts
Art and Design*
Design and Technology
Drama**
Music***
4.Scientific
Computer Science
Geology
Physical Education
Separate GCSEs in Biology, Chemistry and Physics

* Art Scholars must take GCSE Art and Design to keep their financial award.

** Drama Scholars must take GCSE Drama to keep their financial award.

*** Note that pupils must have at least Grade 2 Performance ability for GCSE Music. There is also a fast-track one year course during Wednesday Activities of the 4th Year for those who already have Grade 5 Theory, Grade 6 Performance and who participate in bands or orchestras at school.

The options system permits the choice of subjects to satisfy those with special inclinations; for example, French and German, Art and DT, Music and Drama, Geology and Geography. In choosing from the guided structure, each pupil benefits from a broad curriculum that is balanced across the Sciences, Languages, Humanities and Creative Arts. This ensures that all doors are left open when it comes to making A Level and post-18 choices. However, we are always willing to consider variations from this guided structure when they are clearly in the interests of an individual pupil.

We also make special provision for those with particular talents. For example, for a number of years we have provided the opportunity for **talented musicians** who have reached Grade 6 in an instrument and Grade 5 in theory to choose **Fast Track Music**, sitting the GCSE exam at the end of the 4th Year. Lessons take place mainly during Wednesday afternoon activities and they are only accommodated for committed pupils with the required proven standards who have no other conflicting interests on Wednesday afternoons. There are no other subjects where we can offer 'fast-track' early GCSEs and in most cases this is not advisable.

Games

All pupils take part in Games during the 4th and 5th Years. These weekly Games sessions do not lead to an examination certificate. However, we do offer Physical Education GCSE as one of our academic GCSE options.

PSHEE

There is also a non-examined programme of lessons in Personal, Social, Health and Economic Education. Listed below are the subjects covered during the GCSE years.

4th Year: Human Rights and International Law, The Legal System in the UK, Diversity in the UK, How to Improve your Community, Health and Safety, Personal Safety, Positive and Negative Relationships, Consent, Impact of Drugs and Alcohol, Gender Double Standards, STIs and Contraception, Safer Sex, Sexuality, Self-esteem, Mental and Emotional Health, Body Image and Cosmetic Procedures.

5th Year: Post-16 and Post-18 Options, Parenting Skills, Unintended Pregnancy Options, Social Media, Cults, Intolerance and Extremism, Career Identity, Work Experience, Work Attitude and Values, Sexting, Impact of Sex in the Media, Pornography, Discrimination and Harassment (in the workplace), Rights and Responsibilities at Work.

One of the major strands of PSHEE is Relationships and Sex Education and this features in some way in all year groups. We do hope that all pupils will take part in these lessons and workshops as an important part of their education. However, parents may withdraw their son or daughter from any aspect of the programme by writing to the Head of PSHEE, Miss Finnegan.

Advice on Choices

When choosing subjects to study, pupils should consider the following:

1. Is the subject enjoyable? Generally speaking, pupils perform best with subjects that they find interesting and stimulating.
2. Can a good grade be achieved? Pupils should choose a subject in which they are likely to be successful. It can be difficult to maintain effort over two years if a subject is a real struggle for pupils, and this may also adversely affect a pupil's enjoyment of the subject.
3. Future courses at A Level and beyond.
4. Career paths.

Certain courses at Higher Education institutions require specific A Levels to have been studied and to help pave the way for this, it may help to also study these subjects for GCSE. Whilst it is recognised that career choices may well change greatly between now and entry into the Sixth Form, pupils can get an idea of the types of A Levels required for degree subjects at UK universities by speaking to Mr Ross Williamson (rmw@truroschool.com) and to Mrs Lucy Jupp (lri@truroschool.com) for degree courses at UK and overseas universities. The Head of Careers, Mrs Nancy Kenward, may also be contacted to provide further guidance. Her email address is nk@truroschool.com.

Although we will make every effort to ensure that pupils can follow their chosen programme, no guarantee can be given. The viability of courses and of subject combinations will depend on ability, demand for the subject and staff availability.

The creation of our timetable and teaching allocation starts immediately after the deadline for options before half term in the Spring Term.

The Timetabling Process

When options forms have been received, we check the subject options which have been requested and follow-up any queries or special requests with parents, pupils and the relevant staff. After this, we use the student options to create subject blocks, which we then use to construct the timetable. It is rare for us to find that a pupil's options cannot be timetabled, but if this is the case, we will contact parents to discuss and agree alternatives. We cannot promise that pupils will get the same teachers as they had in their previous year, although we make an effort to maintain teacher continuity from the 4th Year to 5th Year. Once the subject blocks have been created, specific subject changes may become impossible. Hence, it is important, as far as possible, to ask for the most likely combination of subjects when submitting the options form.

Late change of option subject

Late requests for options (or option changes) can be difficult and sometimes impossible to accommodate once the timetable blocks have been produced. Requests for any subject change should be made directly to Mark Vanstone (mv@truroschool.com) as early as possible and preferably before Easter.

Once the 4th Year has begun, pupils occasionally ask to swap subjects; timetable constraints often prevent such moves. Accommodating any change of option often requires the manoeuvring of the position of other subjects, leading to changes of sets and teachers. This can disrupt learning in these subjects and it can be difficult to catch up with missed work when moving sets. For these reasons subject changes will generally only be considered during the first four weeks of the Autumn Term.

Transition from 3rd Year to 4th Year

3rd Year pupils will continue with their current compulsory curriculum until the end of the summer term of the 3rd Year. Although these subjects are not certificated, they are an important part of their Key Stage 3 education and pupils will be expected to maintain their motivation throughout the remainder of the academic year. Most of the new GCSE and IGCSE courses that pupils have chosen will begin in September of the 4th Year, however, English, Mathematics, Biology, Chemistry, Physics, Geography and Religious Studies will be covering skills and material in the 3rd Year which will be examined at GCSE/IGCSE. It is therefore important that pupils keep their exercise books for these subjects.

Teaching Groups

In the 3rd Year many subjects are taught in tutor groups. This is not possible in the 4th and 5th Year. The variation in pupil choices mitigate against this and some subjects such as Mathematics, Modern Languages, Physics, Chemistry and Biology may group students by ability.

Attainment Grading

Grading at GCSE has undergone a process of change, with the changes being phased in over time. The grading system for GCSEs and IGCSEs awarded in the Summer of 2023 for subjects which begin teaching in September 2021 will be as follows:

<ul style="list-style-type: none">• Art and Design (GCSE)• Computer Science (GCSE)• Design & Technology (GCSE)• Drama (GCSE)• English Language (GCSE)• English Literature (IGCSE)• Geography (GCSE)• Geology (GCSE)• History (IGCSE)• Mathematics (IGCSE)• Modern Foreign Languages (IGCSE)• Music (GCSE)• PE (GCSE)• RS (GCSE)• Sciences: Biology, Chemistry and Physics and Double Science (GCSE)	<p>9 – top grade 8 7 6 5 – ‘good pass’ 4 – pass 3 2 1 – lowest grade</p>
---	--

Homework (Prep)

Pupils will also notice an increase in the homework loading as they move to the 4th Year. In some cases, preps may be of a shorter or longer duration than suggested, depending on the motivation and ability of the pupils, the demands of the teaching schedule, and the proximity of internal and external examinations.

Curriculum Subject Details

Curriculum Subject Details

Art and Design	9
Computer Science	10
Design and Technology	11
Drama	13
English Language and English Literature	14
Geography	15
Geology	17
History	18
Mathematics	20
Modern Foreign Languages: French, German, Spanish	21
Music	22
Physical Education	24
Religious Studies	25
Sciences: Biology, Chemistry, Physics	26

Art and Design

Art Scholars must take GCSE Art and Design to keep their financial award. However, pupils do not need to be scholars to take this subject.

Art requires pupils to produce extensive research, using their sketchbook and supporting studies to produce work that shows the development of their ideas. A degree of independence is required to be successful in this subject. An Art and Design GCSE is essential for anyone wishing to go on to art school or into careers in art and design. We have forged close links with Falmouth University and its Art Department, which is of great benefit to pupils who wish to pursue a future in the creative arena. Art can lead to careers in graphics, textiles, fashion design, photography, animation, three dimensional design (furniture, jewellery, display, exhibitions, etc.), architecture, industrial design, and beauty therapy. The skills learnt and developed in Art are also useful when applying for Dentistry. The Peninsular Medical School values the arts and makes it compulsory for their pupils to take part in a creative unit during their fourth year of study.

What will be taught?

The course is about having an adventurous and enquiring approach to both Art and Design and developing the skills to express creative ideas. Pupils will develop an understanding of past and contemporary Art and Design and learn to produce a personal response embracing a range of ideas. The skills they will develop will be varied. Among them, they will develop: a working knowledge of the materials, practices and technology of Art and Design; the skills to investigate, analyse and experiment; their imaginative powers and the skills to express their ideas and feelings. Pupils will also develop an understanding of the language and conventions of Art and Design, and an understanding of the place of Art, Craft and Design throughout history and in our current society. The exam board stress that 'drawing' needs to underpin pupils' work and so the course explores drawing in a wide and exciting way.

How will it be taught?

The course is run for mixed ability groups. There is ample opportunity for pupils to pursue their education over and above their timetabled allocation; students can drop into the weekly, after school life drawing classes as and when they want or need. Throughout the GCSE course there are also opportunities to see exhibitions in our own Heseltine Gallery and to visit some of the major galleries during the 5th Year London Art trip. All students are expected to attend the London gallery trip as it is a very important part of the course. The cost will be around £200.00.

Pupils will be taught a diverse range of skills and techniques through a wide range of different workshops. They will then be given the chance to develop their own work using the skills they have learnt. Pupils will learn to self-assess and review their own work and discuss personal ideas in front of the class. At the start of the course the reins will be tight but as pupils gain confidence and a better understanding of what is expected of them the reins will be loosened. At all times there will be full support and help on hand.

How will it be examined?

The GCSE in Art and Design contains two units:

- Unit 1-The portfolio (60% of the total marks)
- Unit 2- is an externally set assignment, with a Controlled Test (40% of the total marks)

The portfolio section includes two parts: The first unit will comprise of a selection of work resulting from activities such as trials and experiments; skills-based workshops; mini and/or foundation projects; responses to gallery, museum or site visits. The second part is their major project which is a sustained project developed in response to a starting point in which they evidence the journey from initial engagement with an idea(s) to the realisation of intentions. This will give students the opportunity to demonstrate, through an extended creative response, their ability to draw together different areas of knowledge, skills and/or understanding from across their course of study.

To complete the GCSE, there is a Controlled Test. This will take the form of seven questions; these are starting points – for example, ‘Journeys’ or ‘Time’. The Externally Set Paper will also contain some suggestions for possible starting points and directions or areas of study to help pupils to develop their response and to give them ideas regarding their research. Pupils will then have six weeks in which to prepare for the timed test. During this time, they should explore the theme in their sketchbook and in preparatory studies. Discussion with their teacher is permissible. At the end of this period, pupils will sit 10 hours (over 2 days) of supervised unaided work in which students are required to realise their intentions. The preparatory and developmental work, along with the final piece, will then be submitted for assessment. All pupils will be marked internally and then moderated by an official AQA moderator.

Computer Science

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has links with Mathematics, Science, and Design and Technology, providing insights into both natural and artificial systems. The core of Computing is Computer Science, in which pupils are taught the principles of information technology and computation, how digital systems work, and how to put this knowledge to use through programming, enabling them to solve problems, create systems and produce a range of content. Computing also ensures that pupils become digitally literate – able to use, express themselves and develop their ideas through technology – helping to equip them for the future workplace and become active participants in a digital world.

What will be taught?

The syllabus covers the following broad topics:

- Systems Architecture
- Memory and Storage
- Networks and Internet
- Software
- Algorithms
- Programming Skills and Creating Robust Programs
- Computational Logic
- Data Representation
- High Level Programming

The course allows pupils to demonstrate their ability to:

- understand and apply the fundamental principles and concepts of Computer Science, including abstraction, decomposition, logic, algorithms, and data representation;

- analyse problems in computational terms through practical experience of solving such problems, including designing, writing and debugging programs;
- think creatively, innovatively, analytically, logically and critically;
- understand the components that make up digital systems, and how they communicate with one another and with other systems;
- understand the impacts of digital technology to the individual and to wider society;
- apply mathematical skills relevant to Computer Science.

How will it be taught?

Computer Science will be taught in mixed ability classes. Lessons will involve the combined use of a range of resources including *Moodle* and a fully endorsed textbook. Practical aspects will be delivered using resources including Raspberry Pi, and programming environments including *Python*, *HTML* and *Scratch*.

How will it be examined?

Assessment is divided into 2 units which are both externally assessed.

1. Computer Systems (50%): an externally set and marked 90 minute written examination requiring a mixture of short answer, single sentence and extended responses, to assess understanding of the theory.
2. Computational Thinking, Algorithms and Programming (50%): an externally set and marked 90 minute written examination in two parts, requiring a mixture of short and medium answers, to assess knowledge of programming skills and techniques. Section A assesses students' knowledge and understanding of concepts of Computer Science. Students then apply these to problems in computational terms, where they may use an algorithmic approach. Section B is worth 30 marks, and assesses students' practical programming skills and their ability to design, write, test and refine programs.

Design and Technology

As society relies ever increasingly upon technological advances Design and Technology seeks to prepare individuals for a future that is both digital and creative. As a subject it can't simply be summed up as 'woodwork or metalwork' - despite the historic perception that may exist. The subject seeks to employ, IT / digital, creative thinking, problem solving, maths, physics and practical skills to tackle 'real world issues'. As a department we prepare our pupils to thrive in dynamic, creative industries, such as Engineering, Architecture, Product Design and variety of professions, many of which have not yet evolved. Of one key element we can be sure: they will all use technology. CAD (computer aided design) and CAM (computer aided manufacture co-exist with more traditional techniques and the GCSE course places emphasis on understanding and applying iterative design processes, rather than pure manufacturing. Students will use their creativity and imagination to design and make prototypes that solve real and relevant problems, considering their own and others' needs, wants and values.

What will be taught?

Pupils will cover all 'core' learning areas specified by the Edexcel Design and Technology specification. Additionally, they will have to collectively choose one other material area. Particular focus will be on the development of skills essential to effective

designing and manufacturing. Pupils will be encouraged to problem solve in order to complete a number of short 'design and make' tasks culminating in their main assessed project. They will also learn about energy, sustainability, manufacturing and social, moral and ethical factors within design and manufacture.

Computer Aided Design/Manufacture (CAD/CAM) will be used innovatively in both short tasks and the main coursework project. Both 2D and 3D design software will be employed to create outcomes on our CNC machinery.

How will it be taught?

Theory content will be delivered through protected theory lessons and the remaining lessons will be dedicated to design and manufacture exercises. In the first term pupils will improve their workshop and digital skills with an intensive practical course, which will help them with their coursework project. In the second and third term they will undertake a mini project which will give them opportunity to use understand the design process and use their new skills, as well as focus on some of theory-based content.

The 5th Year involves the start and finish of the controlled assessment project, although some may start this towards the end of the 4th Year. Pupils will have to choose one title from a number of 'design contexts', which are written to accommodate all material areas. Guidance will be provided to ensure that pupils undertake a project to suit their skills. The project is undertaken as a controlled assessment which involves:

- Investigation (16 marks);
- Design (42 marks);
- Make (36 marks);
- Evaluate (6 marks).

The NEA (non examined assessment) evidences a pupil's ability to follow the design process in order to design and manufacture an outcome that answers a design brief. Pupils will produce an electronic portfolio, which will be marked by Truro Design and Technology staff and verified by the exam board. The portfolio will showcase all analysis, research, design development and planning for manufacture. It will also evidence manufacturing at different stages, as well as subsequent testing and evaluating of the final outcome.

Alongside pupils' individual work, the topics required for the written exam paper are covered in lessons through discussion, demonstration, the use of relevant text books and web-based resources.

How will it be examined?

1 hour 45 min exam (100 marks)	50% of GCSE grade
Non Examined Assessment (100 marks)	50% of GCSE grade

The Department has a history of excellent results and a reputation for extremely high quality manufacturing. As we expect our pupils to produce projects of a high standard, it is desirable for them to take advantage of our workshop facilities at lunchtimes and after school. Pupils will be invited on at least one day of local visits to see a range of manufacturing and local designers.

Drama

Drama Scholars must take GCSE Drama to keep their financial award. However, pupils do not need to be scholars to take this subject.

Pupils may have experience of working on school productions, but Drama GCSE will require dedicated study as well as providing further opportunities to perform and to write. Drama helps to develop a unique combination of skills: teamwork, problem-solving, creativity, and reflective evaluation. The course involves ensemble work and a dedication to group devised drama which requires rehearsals outside normal school hours at certain times during the course. It also requires writing skills as part of the non-exam assessment and written examination. Drama gives pupils an opportunity to develop their personal communication skills and allows them to explore written texts that go beyond what is offered in the English Literature course as they consider how to interpret texts for staging purposes. Pupils will gain greater self-awareness and confidence in public presentation and interview situations. These are skills that are transferable to any future career.

What will be taught?

In the first year of the course, pupils will be introduced to a range of performance techniques, different theatrical styles and periods, and the work of several influential practitioners and playwrights. Practical exploration and performance underpins much of the course, including the written work. Pupils are introduced to a range of rehearsal strategies, such as thought-tracking, still-imaging, hot-seating, forum theatre and cross-cutting in preparation for their devised performances. We also explore the work of a diverse range of practitioners and styles, from Stanislavski to Brecht - and Naturalism to Physical Theatre. Throughout the course, emphasis is placed on developing both vocal and physical skills, and working with others as an ensemble. All assessed work takes place in the 5th Year, although much preparation will have taken place in the 4th Year.

Component 1: Understanding drama (exam), 40%

- Study of one set play.
- Analysis and evaluation of the work of live theatre makers.

Component 2: Devising drama (practical), 40%

- Creation and performance of devised drama (as performer or designer).
- Analysis and evaluation of your own work.

Component 3: Texts in practice (practical), 20%

- Performance of two extracts from one play (as performer or designer).

How will it be taught?

Drama will be taught in mixed ability classes. There will also be some rehearsals outside of school hours when preparing for the fourth term's devised production. Pupils are given as many opportunities as possible to experience theatre from a professional perspective. Workshops by visiting practitioners, including the school's own resident theatre company, *cube theatre*, and trips to the theatre will regularly take place.

How will it be examined?

Component 1 is a written exam. Component 2 is marked by teachers and moderated by AQA; students' devising logs and their performances are assessed. Component 3

is marked by a visiting external examiner, and the assessment is based entirely on performance.

English Language and English Literature

Most universities require applicants to hold a grade 4 or above in GCSE English Language for the study of any degree subject. For the most competitive courses and universities, a grade 7 in English may be expected.

What will be taught?

Although these are two distinct GCSE subjects, the skills being developed are really very similar as the syllabuses encourage pupils to improve their language skills and appreciation of literature, developing successful readers, writers, speakers, listeners and thinkers.

Throughout the 4th and 5th Years, work in class will be quite familiar to pupils from English lessons in the junior years. The emphasis in EDEXCEL IGCSE English is on the analysis of literary texts and the accurate, effective use of language: pupils will learn to understand and respond to what they hear, read and experience. Beginning with a core language skills module in the 4th Year, the course encourages pupils to read a challenging range of fiction and non-fiction, some from the C19th, and to write in response, using relevant vocabulary, correct grammar, spelling and punctuation, and demonstrating a sense of style and an awareness of audience. Pupils will practise comparing and analysing texts, and will develop their writing skills by using a variety of forms and styles to communicate their ideas.

There is an additional Spoken Language component, which is internally assessed and which stands separate from pupils' grades in English. Many lessons will involve pupils in speaking and listening activities, encouraging them to become more effective in situations ranging from a small-group, informal discussion of literature, to more formal presentations in front of an audience (usually their own class). These activities develop pupils' abilities to respond appropriately and confidently to texts, issues and ideas, and this component is especially important for pupils intending to study abroad or in the fields of Dentistry, Medicine and Veterinary Science.

IGCSE English Literature develops the ability of pupils to read and respond to a wide range of English literary texts from different periods and different cultures. Pupils study prose, drama (including Shakespeare) and poetry. They develop their ability to appreciate the different ways in which writers achieve their effects, and to communicate their personal response to the texts studied.

How will it be taught?

All pupils study English and English Literature in the 4th and 5th Years, when we cover the requirements of the two GCSE syllabuses. Pupils are taught in mixed ability sets with one smaller, language only class to allow more focused support.

The first term will concentrate on establishing sound language skills, as well as developing pupils' original writing. Throughout the course, there will be the opportunity to read and explore written texts: more often than not these will be plays, poems, short stories and novels, but pupils will also analyse newspaper and magazine articles, biography, travel writing and so on. They will explore these many texts in as many ways: comparing the film versions with the written originals; bringing characters to life in dramatic improvisations; small group investigations; library-based or internet research assignments; structured analytical essays, etc. Pupils will study a

Shakespeare play not only as a written text, but through performance. Pupils' active involvement in lessons is encouraged, so there will regularly be purposeful talking, as well as listening, in class.

How will it be examined?

The exam board for IGCSE English is EDEXCEL (graded 9-1) and for IGCSE English Literature is University of Cambridge International Examinations (graded 9-1). For both GCSE subjects, all pupils will follow the same courses and sit the same examinations, making them all eligible for a full range of grades.

For EDEXCEL IGCSE English, there is one examination, worth 60% of the qualification, requiring pupils' knowledge of an anthology of non-fiction texts. One of these will be compared with an Unseen text for the Reading section. There is also a Writing section, in which pupils are asked to write on a linked topic, with a given audience and purpose. The remaining 40% takes the form of two pieces of coursework - one imaginative writing and the other a comparison of two anthology texts (poetry and prose).

There are three written examinations for the IGCSE English Literature. Paper 1 tests pupils on their Shakespeare text and Paper 2 on their set prose and poetry texts. Pupils may take clean copies of the play they have studied into this exam, but not their prose or poetry texts. These exams represent 75% of the marks. Paper 3 lasts 1 hour 20 minutes and represents 25% of the marks. In this exam pupils answer one question responding to and analysing either an unseen poem or prose extract.

Further information on the EDEXCEL English syllabus and sample past papers can be found at:

<https://qualifications.pearson.com/en/qualifications/edexcel-international-gcses-and-edexcel-certificates/international-gcse-english-language-a-2016.html>

Further information on the IGCSE English Literature syllabus and a sample past paper can be found at:

<https://www.cambridgeinternational.org/programmes-and-qualifications/cambridge-igcse-english-literature-0992/>

Geography

Geography is a strong facilitating subject, which provides students with extremely useful transferable skills. It presents helpful background knowledge for jobs and courses in exporting and importing, tourism, outdoor leisure management and cartography. It is also very relevant to careers related to land use and the environment, including land and housing management, town planning, GIS risk mapping, agriculture, surveying, geology, ecology and forestry.

What will be taught?

Geography is taught so that pupils develop an appreciation and awareness of the ways in which people and the environment interact. The subject is concerned with the opportunities, challenges and constraints that face people in different places. During the course, pupils will acquire and utilise a variety of geographical skills in order to make connections between physical and human processes.

The course takes an enquiry-based approach to extend students' understanding of a range of geographical concepts, places and processes. Component 1 contains core themes that create a balance between contemporary and traditional, human and physical geography. This includes Rivers, Coasts, Ecosystems, Weather, Global Cities, Leisure and Retail. Alongside the core, the qualification offers optional themes which allows the Department to select geographical issues that suits the students' needs and interests. They include 'Ecosystems Under Threat', which explores sustainable resource management, and 'Social Development Issues', where issues such as gender, health and education are investigated.

The overarching aim of this course is that students should develop the ability to think 'like a geographer'. That is to say, learners will develop the skills necessary to conduct framed enquiries in the classroom and in the field in order to develop their understanding of specialised geographical concepts and current geographical issues.

Through the study of Geography pupils will develop the ability to:

- think creatively, for example, by posing questions that relate to geographical processes and concepts that include questioning spatial pattern and geographical change;
- think scientifically by collecting and recording appropriate evidence from a range of sources, including fieldwork, before critically assessing the validity of this evidence and synthesising their findings to reach evidenced conclusions that relate to the initial aim of their enquiry;
- think independently by applying geographical knowledge, understanding, skills and approaches appropriately and creatively to real world contexts. In so doing, pupils should appreciate that Geography does not always match typical or predicted outcomes.

The Eduqas Geography B syllabus consists of three examined units which emphasise the study of important social, economic and environmental issues.

Component 1: Investigating Geographical Issues

- Question 1: Theme 1, Changing Places – Changing Economies.
- Question 2: Theme 2, Changing Environments.
- Question 3: Theme 3, Environmental Challenges.

Component 2: Problem Solving Geography

A Decision Making Exercise based on any of the topics from Component 1

- Part A will introduce an issue and set the geographical context.
- Part B will outline a number of possible solutions to the issue.
- Part C requires a solution to be chosen and justified.

Component 3: Applied Fieldwork Enquiry

- Part A will assess approaches to fieldwork methodology, representation and analysis.
- Part B will assess how fieldwork enquiry may be used to investigate geography's conceptual frameworks.
- Part C will assess the application of broad geographical concepts to a wider UK context and assess pupils' ability to make and justify a decision.

How will it be taught?

Geography is taught in mixed ability classes. Lessons involve the widespread use of various resources including streamed video, information technology, the internet, maps and photographs and the development of a wide range of skills.

How will it be examined?

The exam board is WJEC Eduqas (B) and the examination consists of three written units:

- Component 1: Written examination, 1 hour 45 minutes (40%)
- Component 2: Written examination, 1 hour 30 minutes (30%)
- Component 3: Written examination, 1 hour 30 minutes (30%)

Specification link: <https://www.eduqas.co.uk/media/5ofdo23l/gcse-geog-b-spec.pdf>

Geology

Geology is an integrated science that incorporates elements of Physics, Chemistry, Biology, Mathematics and Geography in a practical and applied way, rather than one that is purely theoretical. It includes the study of minerals, rocks and fossils, landscape development, the evolution of life, natural hazards, climate change, plate tectonics, and the concept of deep time. The Department has strong links with many universities and national organisations and these relationships are used to enhance the learning experience. The subject opens up opportunities to progress into careers in mining engineering, exploration geology, geo-technics, environmental geology, petroleum geology, geo-conservation and oceanography.

What will be taught?

Geology is an applied science and there is minimal overlap with any other GCSE subject offered at Truro School. It is a very worthwhile educational experience for all pupils whether or not they continue to study Geology beyond this level. Geology allows pupils to understand the physical landscape and to build up a range of transferable skills which can be applied to a wide range of careers. Working independently and as part of a team, observing, measuring, recording, analysing, synthesizing and evaluating data in the laboratory and out on fieldwork.

The course consists of three key ideas which enable the candidate to:

- i. Analyse and interpret rock exposures by studying minerals, rocks (igneous, sedimentary and metamorphic) and geological structures.
- ii. Understand the 'big ideas' in Geology which underpin our current understanding of the Earth. This involves the study of the rock cycle, plate tectonics, geochronological principles, global climate change and sea level change and the origin and development of life on Earth.
- iii. Compare the Earth with other planetary bodies within our Solar System and appreciate the links between natural processes on Earth and those on other planetary bodies within the Solar System.
- iv. Appreciate that human interaction with the Earth can increase or reduce risk by studying earth hazards and their mitigation, and earth resources and engineering.

How will it be taught?

Geology is taught in mixed ability classes. Lessons involve the use of interactive whiteboards, streamed video, the *Moodle* Virtual Learning Environment, maps, photographs, fossils, rock and mineral specimens and the development of a wide range of practical skills. Four fieldtrips form an important component of the course. The entire course is supplied on a memory stick and we have developed our own in-house

textbooks for the 4th and 5th Year course modules. In addition, the Department has invested in online resources such as *Quizlet* to promote independent learning from the outset.

How will it be examined?

The exam board is WJEC Eduqas and the examination consists of one on-screen written paper and one written assessment. The assessments are untiered, with the examinations catering for the full range of ability and pupils having access to the full spectrum of grades.

- Paper 1 (1 hour 15 minutes). This consists of on-screen, compulsory structured data and stimulus response questions relating to the entire GCSE Geology subject content (50% weighting).
- Paper 2 (1 hour 30 minutes). This is a written assessment consisting of data and stimulus response questions relating to the geology of an area shown on a simplified geological map (50% weighting).

History

IGCSE History is an academically rigorous subject that provides a sound foundation for all arts and social science careers. Not only does the qualification provide valuable insights into the way the modern world has evolved; it is also an excellent medium for the development of the skills of investigative reading, identifying and evaluating key evidence, weighing up arguments and composing logical, convincing written judgements. These skills are transferable to most higher education courses and are vital in a wide range of future careers, including law, journalism, management and politics.

What will be taught?

The History specification focuses on some of the key world-shaping episodes of the twentieth century.

International Relations, 1919-39

- The Treaty of Versailles (the peacemakers' aims; the final terms; its reception in Germany; its role in helping to bring about WW2);
- The League of Nations (structural weaknesses; successes and failures; inability to prevent Japan and Italy's aggression in China and Abyssinia);
- The Collapse of Peace (Hitler's foreign policy; the policy of appeasement; the Nazi-Soviet Pact and the outbreak of WW2).

International Relations 1945-91 (by arrangement with interested pupils)

- The Cold War (causes; 'containment'; Soviet control of E. Europe; events in the Gulf).

Russian depth study, 1905-41

- The collapse of Tsarist Russia, 1905-17 (the backwards nature of Tsarist society and government; Russia's catastrophic performance in WW1; the March 1917 Revolution and the subsequent murder of the royal family);
- The rise of Lenin's Bolsheviks (the failure of the Provisional Government; the November 1917 Revolution; the terrible Russian Civil War; Lenin's efforts to rebuild the economy);

- Stalin's dictatorship (his Machiavellian rise to power; his bloody Purges; totalitarian rule);
- Stalin's economic policies (the benefits and the atrocious human costs of Collectivisation and the Five-Year Plans).

Source-handling

Thorough schooling will be provided in the skills of handling source materials. Over two years, pupils will develop the ability to identify, compare and interpret relevant evidence in primary/secondary sources. They will also learn how to evaluate source reliability and utility by drawing on contextual knowledge and/or by considering provenance.

The course concludes with a revision programme, to help to prepare pupils for the final exams in the summer term.

How will it be taught?

History is taught in mixed-ability classes. Prospective historians need not fear that they will be weighed down with large amounts of written homework. Instead, our pupils are typically required to undertake well-structured, weekly preparatory reading assignments, with the objective of sharing their insights with their peers in lively oral work in class. Subject-specific skills, knowledge and understanding are built up over the two-year course and are assessed regularly in class, under realistic test conditions. This assessment comprises differently weighted structured questions, requiring written responses ranging from a few lines to a short essay. The Department runs twice-weekly clinics for those who need additional support.

How will it be examined?

The exam board is CIE (Cambridge International Examinations); the specification is *History (0977)*. Pupil achievement is assessed via three examinations at the end of the two-year course (i.e., at the end of the 5th Year). All pupils sit common exam papers which give access to all grades. There is no coursework or controlled assessment element.

- **Paper 1 (0977/01)** (2 hours, 40% of total marks). A test of the candidates' knowledge and understanding of Russia 1905-41, International Relations 1919-39 and 'Containment', 1950-75. The skills tested are the ability to: (a) accurately recall factual information; (b) construct two detailed, coherent explanations of a given phenomenon; and (c) construct a balanced evaluation of a given statement, which concludes in a convincing judgement.
- **Paper 2 (0977/02)** (2 hours, 33% of total marks). A test of candidates' source skills (outlined above). The source exam's questions focus on one of the study options for Paper 1.
- **Paper 4 (0977/04)** (1 hour, 27% of total marks). A test of candidates' ability to write an in-depth, balanced evaluation of a given statement, focusing on their chosen Depth Study (Russia 1905-41 – one of the study options for Paper 1). The paper is CIE's alternative to a coursework or controlled assessment task.

The Department is very experienced in teaching this popular and well-established course and achieves excellent exam results.

Mathematics

A good pass in Mathematics at GCSE (universities currently indicate this as a 6) will be needed for virtually all scientific and engineering courses and for certain others like Anthropology, Business Studies, Economics, Geography and Psychology. Very many careers will be closed if a pass standard (currently 4) in Mathematics is not obtained.

What will be taught?

The specification is split into four main headings:

- Number
- Algebra
- Geometry
- Statistics

We enter pupils for Edexcel IGCSE.

The specification web address is:

<http://qualifications.pearson.com/content/dam/pdf/International%20GCSE/Mathematics%20A/2016/Specification%20and%20sample%20assessments/International-GCSE-in-Mathematics-Spec-A.pdf>

Mathematics will be examined at two levels: Higher Tier and Foundation Tier, each with its own clearly defined targets. The possible grades at Higher level are 9 to 4, while the Foundation level limits the grades from 5 to 1. The level that a candidate enters is not recorded on their certificate. The pupils at Truro School sit the IGCSE, which offers a better introduction to A Level for those hoping to continue with Mathematics into the Sixth Form; universities happily accept the IGCSE as equivalent to GCSE. We will all embark on the (Linear) Higher Tier course initially, but may have to truncate the specification for some as we approach the mocks in the 5th Year to maximise their potential for a 7-4 grade (not all will realistically be able to target an 8/9, but we will give all the opportunity to try). Decisions on possible Foundation Level entry will be left until as late as is sensible and revision will be arranged accordingly.

How will it be taught?

As a core subject all pupils are required to study Mathematics through to 'GCSE' standard. Although many courses are thought of as starting in the 4th Year, Mathematics is an on-going development, which begins much earlier. During the first three years we give all pupils the essential groundwork and the opportunity to find their level in Mathematics. Through regular block testing and teacher assessment, by the end of the 3rd Year we aim to have pupils correctly grouped and working in homogeneous, loosely hierarchical sets.

All pupils are encouraged to take advantage of the Maths Clinic to help fill a gap or illuminate a problem as and when necessary. Maths Clinics take place every lunch time between 1:30pm and 2:00pm, and a record is kept of attendance.

High achieving pupils may have the opportunity to sit the AQA L2 Further Maths Qualification which will effectively give them an extra GCSE and a deeper understanding of the subject.

We also encourage our more mathematically able pupils to take part in National Maths Challenges to help broaden their interest in the subject and give some an opportunity to shine in a less pressurised arena than the usual run of external examinations.

How will it be examined?

There is no controlled assessment component forming any part of the assessment. The standard IGCSE has two written examination papers each of 2 hours duration, both allowing the use of a calculator.

Modern Foreign Languages: French, German and Spanish

The IGCSE Modern Languages courses we offer are in French, German and Spanish.

The course begins in the 3rd year, and pupils are encouraged to continue with their current languages for their IGCSEs in the 4th and 5th Year.

Language skills are, as ever, highly regarded by employers. Obtaining a good grade in a Modern Foreign Language is also very useful evidence of a pupil's ability to learn any language should a future employer require such training for their employees. Increasingly, universities also look for pupils having a language qualification as part of a rounded set of academic skills; this is particularly true for universities in the USA and other parts of the world. There are now many university courses in the UK allowing you to take your degree discipline with a language which involves a study or work placement abroad.

Pupils wishing to study a language at A Level will need the IGCSE qualification in that language.

What will be taught?

The courses in each language aim to:

- Develop the ability to use the language effectively for purposes of practical communication within the country of residence, where appropriate, and in all countries where the language is spoken.
- Form a sound base of the skills, language and attitudes required for further study, work and leisure.
- Offer insights into the culture and civilisation of countries where the language is spoken.
- Develop a fuller awareness of the nature of language and language learning.
- Encourage positive attitudes toward language learning and towards speakers of other languages, and a sympathetic approach to other cultures and civilisations.
- Provide enjoyment and intellectual stimulation.
- Complement other areas of study by encouraging skills of a more general application (e.g. analysis, memorising, drawing of inferences).

During the two years the courses cover the range of topics that the specifications demand. Pupils will already be familiar with many of the topics, such as how to discuss family life, school life, holidays and the area in which they live. At IGCSE they are required to read about and listen to young people talking about their experiences of these topics. The courses place a growing demand on the pupil to learn to cope with 'real-life' situations in the target language country, including finding your way around in France, Germany and Spain respectively, doing the shopping or booking into a hotel, but also learning how to extricate yourself from difficult situations, such as when you are ill, have lost something or have had things stolen in the target language country. In addition, there is emphasis placed in the specification on ecological and

environmental issues. In order to gain the highest grades, pupils must learn how to offer opinions and explain their reactions to a variety of topical issues.

How will they be taught?

Pupils are, where possible, set by ability and their progress is reviewed every half term to see if they are in the appropriate group. The course books used are *Studio GCSE* (French), *Stimmt!* (German) and *Viva* (Spanish) until the Spring Term of the 5th Year, after which a full revision programme is undertaken which includes regular examination practice.

The way the languages are taught will continue to reflect the need to develop practical communication, with pupils being encouraged to listen and read attentively and to speak and write accurately. Each of the topics studied will give opportunities for pupils to listen to as much of the foreign language as possible, not only from recordings but also from streamed video and computer software compatible with the courses studied. Pupils will be given the experience of reading a wide variety of authentic foreign language texts and writing only the sort of language tasks that they may realistically need to use. Pupils will be taught how to speak the language in certain well-defined contexts that are thoroughly realistic. This includes being shown how to build up a personal profile of such things as the family, home area and interests, and learning how to cope with 'real-life' survival situations as those mentioned above. As the pupils' experience grows the emphasis will move towards the expression in both speaking and writing of their opinions on the experiences studied. Pupils will have access to the Language Assistants during the two-year course to further support their speaking skills.

How will they be examined?

All Modern Language pupils take the Edexcel IGCSE examination.

Each language is assessed at the end of the course, thus allowing pupils to develop their language skills over the two years. There is no controlled assessment component in this specification. The examination consists of 3 papers:

- Speaking Paper (15 minutes)
- Listening Paper (30 minutes)
- Reading and Writing Paper (1 hour and 45 minutes)

Music

There are two ways of studying GCSE Music, each with different entry requirements which provide secure foundations for success.

1. Two-year GCSE Music Course

Pupils need to be at a minimum of Grade 3 standard before starting the course. We prefer our pupils to take this varied, fun, two-year GCSE Music Course as it provides the best preparation for success.

2. One-year Wednesday Afternoon Activities *Fast Track* GCSE Music

This is for bright, very advanced musicians, who would not normally be able to fit a Music GCSE into their timetable. It is offered to pupils in the 4th Year and we cover the whole GCSE course in one year as part of the Wednesday Afternoon Activities Programme. In order to qualify for this, pupils will need to have already:

- passed Grade 6 Examination on an instrument;
- passed Grade 5 Theory Examination; and
- be involved in a number of the school's choirs, bands or orchestras.

What will be taught?

GCSE Music is divided up into three areas:

- Unit 1 - Performing (30%)
- Unit 2 - Composing (30%)
- Unit 3 - Appraising (40%)

How will it be taught and examined?

Many pupils are already strong instrumentalists/singers and so score very highly in the Performing part of the course. As a result, most of the lessons are taken up with the Composing and Appraising sides of the course (see below). Throughout the course all pupils are encouraged to take part in the school's rich co-curricular programme by performing in bands, choirs and orchestras.

The requirements of the course are as follows:

Performing Music (30%)

By the end of the course, pupils need to have reached a minimum standard of Grade 4 in order to achieve a good grade at GCSE. They are assessed in February/March of the 5th Year and record:

- A solo piece; and
- A group piece (e.g. jazz group, string quartet, singing group, rock band, piano duet etc.).

These performances can be on any instrument (or voice) and in any style. Pupils who regularly perform in bands, choirs and orchestras tend to attain the highest grades. As a result, pupils are encouraged to take part in the numerous and varied performance opportunities available in the Department.

Composing Music (30%)

The largest proportion of lesson time is spent investigating and experimenting with different musical styles (from classical styles through to impressionism, serialism, minimalism, jazz, blues, ragtime, pop etc.), allowing the pupils to develop their own compositional voice. At the end of the course pupils submit two well-developed compositions.

Appraising Music (40%)

This is a fun course as pupils hear, investigate and experiment with many different and varied styles of music. At the end of the course, pupils answer written questions in response to many varied pieces of music played on CD. Two of the questions will be on set works - Toto's iconic song 'Africa' and a movement from J.S.Bach's Badinerie for Flute and String Orchestra. A sizeable amount of class time is spent preparing for this examination, through performing and listening to varied musical extracts, however, undoubtedly the best preparation for this examination is performing in bands, choirs and orchestras.

The Department is well resourced with a computer suite of fourteen computers. Pupils compose using the industry standard software *Sibelius 8*.

Physical Education

Although pupils have taken PE as a practical subject up to and including in the 3rd Year, the Physical Education GCSE course introduces a more academic study of the subject, with both a practical and a written theory component. The subject provides a valuable insight into sports performance, health-related fitness and contemporary issues relating to sport for pupils. GCSE PE is an excellent choice for anyone who enjoys sports and wishes to further their understanding and skill level. It gives pupils the opportunity to study an interesting, applied and thoroughly enjoyable course, which naturally leads to them working harder and being more successful.

What will be taught?

The content of this course is geared to exploring the relationship between the theoretical and practical elements of Physical Education, and aims to provide an understanding of the importance of exercise and maintaining a healthy lifestyle. Over the 4th and 5th Years the topics studied include:

- Applied anatomy and physiology
- Movement analysis
- Physical training
- Sports psychology
- Socio-cultural influences
- Health, fitness and well-being
- Use of data
- Practical performance

How will it be taught?

Lessons will include a mixture of practical and theoretical delivery. In the practical lessons, pupils will pursue a range of activities (from a prescribed list) such as badminton, swimming, basketball, squash, handball and many others. The sports covered varies depending on the interests and needs of the group. In the theory lessons, pupils will cover the full syllabus across the two years of study. There is a large amount of support available on the PE Moodle page to support the students' independent study.

How will it be examined?

There will be two written examinations at the end of the course, both 1 hour 15 minutes in length. The content of these examination papers follows the work done in the classroom-based lessons and counts for 60% of the overall assessment (30% from each paper).

In addition to the written examinations, all pupils will be assessed in three practical assessments, from the prescribed list of sports. Pupils will be assessed as a player/performer: in a team activity; in an individual activity; and in one more of their choice from either the team sports or individual activities list. All exam boards will have the same prescribed list of sports (available to view at www.aqa.org.uk). The practical assessments count for 30% of the overall grade. The final 10% of the grade comes from the Performance Analysis assessment, where pupils will analyse and evaluate their own or someone else's performance in one of their chosen sports.

Religious Studies

Religious Studies is a compulsory GCSE subject at Truro School, providing pupils with an opportunity to explore two religious traditions, alongside a focus on contemporary moral values and ethical issues.

Religious Studies is a highly rigorous and academic discipline. We strive to engage our pupils in theological, philosophical and ethical debate, helping them to develop intellectually, morally and spiritually, and support them to form their own views. Pupils will become reflective critical thinkers with a greater awareness and understanding of the world they live in and, in becoming so, will be supported to achieve the best possible examination results in the process.

This GCSE course is good preparation for pupils who wish to study A Level Religious Studies and / or a related discipline such as the humanities, social sciences, medicine and law.

What will be taught at GCSE?

We will explore the key theological beliefs and teachings of two world religions:

- Christianity and Islam. We also investigate the religious, philosophical and ethical issues related to these religions using the following themes:
- Relationships and Families
- Religion, Peace and Conflict
- Religion, Crime and Punishment
- Human Rights and Social Justice

How will it be taught?

Pupils begin this GCSE in the third year as part of their Religious Studies curriculum. In the fourth year, pupils are taught in sets which are broadly arranged according to ability. Religious Studies is a relevant and thought-provoking subject. Pupils are encouraged to listen to the viewpoint of others, debate their own standpoint, ask questions of their learning, and explore different ideas through a range of sources including religious scripture, media, literature, music and poetry. Throughout this GCSE close attention is paid to examination technique so that our pupils approach assessment and the final examinations with confidence.

How will it be examined?

- The exam board for Religious Studies is AQA (graded 9-1). There will be two written examinations (1 hour 45 minutes each). There is no coursework or controlled assessment.
- Component 1: Pupils answer questions on the two religions they have studied. The questions within each religion have a common structure made up of five-part questions of 1, 2, 4, 5 and 12 marks.
- Component 2: Pupils answer questions on all four themes. The questions within each theme have a common structure made up of five-part questions of 1, 2, 4, 5 and 12 marks.

All pupils will gain a Full Course GCSE qualification at the end of the 5th Year. Further information on the AQA Religious Studies syllabus and sample assessment papers can be found at:

<http://www.aqa.org.uk/subjects/religious-studies/gcse/religious-studies-a-8062/introduction>

Sciences: Biology, Chemistry and Physics

Pupils need a background in Science to help navigate through a scientific and technological world, regardless of whether they pursue a career in a science-related discipline. Without scientific qualifications pupils may also rule out many opportunities to work not only in industry, in the fields of engineering and manufacturing, or technological processing, but also in the health services and education. The application of the scientific skills of numeracy, team-working and problem-solving is also valued in the financial sector.

The study of Science and careers in scientific professions in our modern world often rely on the intersection of Biology, Chemistry and Physics. The foundation for future study relies on a balanced and coordinated study of all three Sciences at GCSE level. For this reason, our compulsory core provides all pupils with a GCSE in Combined Science achieved through the separate study of Biology, Chemistry and Physics. Subject specialists teach Biology, Chemistry and Physics separately and the examination papers test Biology, Chemistry and Physics separately. The amount of syllabus material in each subject is approximately two thirds of what is covered in each GCSE Science subject. The certification of the grades for the papers provides two GCSE qualifications.

Able pupils taking Combined Science and achieving good passes can progress to A Level in each or all of the three Science subjects.

For those with passion for Science and with ability, there is an option to study separate GCSEs in each of the sciences. This provides pupils with separate grades in Biology, Chemistry and Physics. To enable the extra material to be taught, more Science lessons are allocated, and this equates to one extra option. By taking separate GCSEs in Biology, Chemistry and Physics, pupils will have taken one of their four options, leaving three final options available for selection.

Whichever science option is chosen, all pupils study the theory of *Working Scientifically*. This aims to emphasize the nature of Science through the use of research, hypotheses, practical skills, explanations and development of logical arguments and theories.

How will they be taught?

Pupils are taught GCSE material for each of the Sciences in the 3rd Year. It is therefore essential that pupils keep all of their exercise books to help with their progress in the 4th and 5th Years.

Whichever science option is chosen, pupils study Biology, Chemistry and Physics as separate subjects, each taught by subject specialists. The three Science specifications are coordinated so that wherever relevant, the links between subjects are emphasised.

In the 4th and 5th Year, we intend to group pupils by ability in each of the science streams. Pupils will be in the same sets for Biology, Chemistry and Physics.

The teaching and learning involves a wide range of resources, including ICT and video-streaming. Practical work is an important part of each Science subject and the theoretical work is complemented by experimental tasks, which teach observation, recording and interpretation of evidence. The importance of safe working practices is emphasised throughout.

How will they be examined?

Pupils studying Combined Science will sit two papers for each Science subject, each lasting 1 hour 15 minutes. Those studying the three separate sciences will also sit two papers for each science subject, but each one will last 30 minutes longer: 1 hour 45 minutes.

There is no coursework but pupils are expected to complete practical work and there are some experiments that will be assessed in the written examinations. In Combined Science there are 16 key practicals across the three Sciences with which pupils should be familiar. There are 24 key practical tasks for the separate sciences (eight tasks for each of Biology, Chemistry and Physics). 15% of the marks in the examinations will be awarded for answering questions related to this practical work.

What will be taught?

Note that the topics are grouped by examination paper. As all examinations are now taken at the end of the course in the 5th Year, we do not necessarily teach everything in the order prescribed by the exam papers. Some topic titles contain much more subject material than others.

Combined Science (Compulsory Core)

Note that for those achieving high grades in Combined Science, it is still possible to continue to A Level in the Sixth Form for motivated pupils.

	Paper 1	Paper 2
Biology <i>(as part of Combined Science)</i>	Cell Biology <i>Animal and plant cells, prokaryotes and eukaryotes, cell specialisation and differentiation, microscopy.</i> <i>Chromosomes, mitosis and stem cells</i> <i>Diffusion, osmosis, active transport</i> Organisation <i>Principles of organisation</i> <i>Digestive system, heart and blood vessels, CHD, health issues, cancer, non-communicable diseases,</i> <i>Plant tissues, organs and organ systems</i> Infection and Response <i>Communicable diseases</i> <i>Human defence systems</i> <i>Prevention and treatment of disease</i> <i>Development of new drugs</i> Bioenergetics <i>Photosynthesis</i> <i>Respiration, response to exercise and metabolism</i>	Homeostasis and response <i>Importance of homeostasis</i> <i>Nervous and hormonal control.</i> <i>Control of blood sugar, water and nitrogen levels.</i> <i>Human reproductive hormones, contraception and infertility. Negative feedback.</i> Inheritance, variation and evolution <i>Sexual and asexual reproduction, meiosis</i> <i>DNA, genetic inheritance, genetic disorders, sex determination</i> <i>Variation and evolution</i> <i>Selective breeding, genetic engineering, classification</i> Ecology <i>Ecosystems</i> <i>Adaptations</i> <i>Nutrient cycles</i> <i>Biodiversity, waste management, land use, deforestation, global warming, maintaining biodiversity</i>
Chemistry <i>(as part of Combined Science)</i>	Atomic structure and the periodic table <i>A simple model of the atom, symbols, relative atomic mass, electronic charge and isotopes. The periodic table.</i> Bonding, structure, and properties of Matter	The rate and extent of chemical change <i>Rate of reaction. Reversible reactions and dynamic equilibrium.</i> Organic chemistry <i>Carbon compounds as fuels and feedstock.</i> Chemical analysis <i>Purity, formulations and chromatography. Identification of common gases.</i>

	<p><i>Chemical bonds, ionic, covalent and metallic. How bonding and structure are related to the properties of Substances. Structure and bonding of carbon.</i></p> <p>Quantitative chemistry <i>Conservation of mass and the quantitative interpretation of chemical equations. Use of amount of substance in relation to masses of pure substances.</i></p> <p>Chemical changes and Energy changes. <i>Reactivity of metals. Reactions of acids. Electrolysis. Exothermic and endothermic reactions</i></p>	<p>Chemistry of the atmosphere <i>The composition and evolution of the Earth's atmosphere. Carbon dioxide and methane as greenhouse gases. Common atmospheric pollutants and their sources.</i></p> <p>Using resources <i>Using the Earth's resources and obtaining potable water. Life cycle assessment and recycling.</i></p>
<p>Physics <i>(as part of Combined Science)</i></p>	<p>Energy <i>Energy changes and transfers. Work and power. Conservation of Energy. Efficiency. National and global energy resources.</i></p> <p>Electricity <i>Circuit symbols. Charge, current resistance and potential difference. Series and parallel circuits. Mains electricity and safety. Electrical power. The National Grid.</i></p> <p>Particle model of matter <i>Density. Changes of state. Internal Energy. Specific and latent heat capacities. Particle motion in gases.</i></p> <p>Atomic Structure <i>Structure of an atom. Mass and atomic number. Isotopes. Development of the model of the atom. Radioactive decay and nuclear radiation. Nuclear equations. Half-life. Radioactive contamination.</i></p>	<p>Forces <i>Scalars and vectors. Contact, non-contact forces and gravity. Resultant forces. Work done and energy transfer. Forces and elasticity. Distance, displacement, speed, velocity and acceleration. Distance-time and velocity-time graphs. Newton's first, second and third laws. Forces and braking, stopping distance and reaction time. Momentum and conservation of momentum.</i></p> <p>Waves <i>Transverse and longitudinal waves. Properties. Properties and uses of electromagnetic waves.</i></p> <p>Magnetism and Electromagnetism <i>Magnets and magnetic fields. Electromagnetism, Fleming's left-hand rule and the motor effect.</i></p>

Separate Sciences (Option)

	Paper 1	Paper 2
Biology	<p>Cell Biology <i>Animal and plant cells, prokaryotes and eukaryotes</i> <i>Cell specialisation and differentiation</i> <i>Microscopy, culturing micro-organisms</i> <i>Diffusion, osmosis, active transport</i></p> <p>Organisation <i>Principles of organisation</i> <i>Digestive system, heart and blood vessels, CHD, health issues, cancer, non-communicable diseases,</i> <i>Plant tissues, organs and organ systems</i></p> <p>Infection and Response <i>Communicable diseases</i> <i>Human defence systems</i> <i>Prevention and treatment of disease,</i> <i>Development of new drugs</i> <i>Monoclonal antibodies</i> <i>Plant disease</i></p> <p>Bioenergetics <i>Photosynthesis</i> <i>Respiration, response to exercise and metabolism</i></p>	<p>Homeostasis and response <i>Importance of homeostasis</i> <i>Nervous and hormonal control.</i> <i>The brain and the eye</i> <i>Control of temperature, blood sugar, water and nitrogen levels.</i> <i>Human reproductive hormones, contraception and infertility.</i> <i>Negative feedback.</i> <i>Plant hormones</i></p> <p>Inheritance, variation and evolution <i>Sexual and asexual reproduction, meiosis,</i> <i>DNA and its structure</i> <i>Genetic inheritance, genetic disorders, sex determination</i> <i>Variation and evolution</i> <i>Selective breeding, genetic engineering</i> <i>Cloning</i> <i>Speciation</i> <i>Theories of evolution and genetics</i> <i>Classification</i></p> <p>Ecology <i>Ecosystems</i> <i>Adaptations</i> <i>Nutrient cycles including decomposition</i> <i>Biodiversity</i> <i>Impact of environmental change</i> <i>Waste management, land use, deforestation, global warming, maintaining biodiversity,</i> <i>Trophic levels, pyramids of biomass</i> <i>Food production</i></p>
Chemistry	<p>Atomic structure and the periodic table <i>A simple model of the atom, symbols, relative atomic mass, electronic charge and isotopes. The periodic table.</i> <i>Properties of transition metals.</i></p> <p>Bonding, structure, and properties of Matter <i>Chemical bonds, ionic, covalent and metallic. How bonding and structure are related to the properties of Substances. Structure and bonding of carbon. Bulk and surface properties of matter including nanoparticles.</i></p> <p>Quantitative chemistry <i>Conservation of mass and the quantitative interpretation of chemical equations. Use of amount of substance in relation to masses of pure substances. Yield and atom economy of chemical reactions. Using concentrations of solutions. Use of amount of substance in relation to volumes of gases.</i></p>	<p>The rate and extent of chemical change <i>Rate of reaction. Reversible reactions and dynamic equilibrium.</i></p> <p>Organic chemistry <i>Carbon compounds as fuels and feedstock.</i> <i>Reactions of alkenes and alcohols.</i> <i>Synthetic and naturally occurring polymers.</i></p> <p>Chemical analysis <i>Purity, formulations and chromatography.</i> <i>Identification of common gases.</i> <i>Identification of ions by chemical and spectroscopic means.</i></p> <p>Chemistry of the atmosphere <i>The composition and evolution of the Earth's atmosphere.</i> <i>Carbon dioxide and methane as greenhouse gases.</i> <i>Common atmospheric pollutants and their sources.</i></p>

	<p>Chemical changes and Energy changes. <i>Reactivity of metals. Reactions of acids. Electrolysis. Exothermic and endothermic reactions. Chemical cells and fuel cells.</i></p>	<p>Using resources <i>Using the Earth's resources and obtaining potable water. Life cycle assessment and recycling Using materials. The Haber process and the use of NPK fertilisers.</i></p>
Physics	<p>Energy <i>Energy changes and transfers. Work and power. Conservation of Energy. Efficiency. National and global energy resources.</i></p> <p>Electricity <i>Circuit symbols. Charge, current resistance and potential difference. Series and parallel circuits. Mains electricity and safety. Insulation, Fuses and circuit breakers. Electrical power. The National Grid. Static Electricity. Electric Fields.</i></p> <p>Particle model of matter <i>Density. Changes of state. Internal Energy. Specific and latent heat capacities. Particle motion and pressure in gases.</i></p> <p>Atomic Structure <i>Structure of an atom. Mass and atomic number. Isotopes. Development of the model of the atom. Radioactive decay and nuclear radiation. Nuclear equations. Half-life. Radioactive contamination. Background radiation. Uses of nuclear radiation. Fission and Fusion.</i></p>	<p>Forces <i>Scalars and vectors. Contact, non-contact forces and gravity. Resultant forces. Work done and energy transfer. Forces and elasticity. Moments, levers and gears. Pressure in a fluid and atmospheric pressure. Distance, displacement, speed, velocity and acceleration. Distance-time and velocity-time graphs. Newton's first, second and third laws. Forces and braking, stopping distance and reaction time. Momentum and conservation of momentum. Changes in momentum.</i></p> <p>Waves <i>Transverse and longitudinal waves. Properties. Reflection. Sound waves. Waves for detection and exploration. Properties and uses of electromagnetic waves. Lenses. Visible light. Blackbody radiation.</i></p> <p>Magnetism and Electromagnetism <i>Magnets and magnetic fields. Electromagnetism, Fleming's left-hand rule and the motor effect. Loudspeakers. Induced potential, the generator effect, microphones and transformers.</i></p> <p>Space Physics <i>Solar System. Life cycle of a star. Orbital motion and satellites. Red Shift.</i></p>

Appendix: Frequently Asked Questions

1. Is it necessary to study for more GCSEs than the ten offered at Truro School?

No. The GCSEs we provide include the core of English, Mathematics, Sciences and Religious Studies, supplemented by four options in Languages, Humanities Creative Arts, and Practical/Scientific subjects; this provides a very balanced and full education for all pupils. When the Government compares the performance of schools, it examines achieved grades in just eight subjects. Accumulating more than ten GCSEs may look impressive, but what matters more to employers, colleges and universities is the quality of the examination grades – particularly given the introduction of the new grading system with nine, rather than eight levels - and pupils' involvement and success in co-curricular activities such as sport, music, drama and outdoor pursuits. It is worth noting that in 2017 the Independent Schools' Council (ISC) reported that the average number of GCSE/IGCSE qualifications taken by candidates was 9.5. Bearing in mind that some of these schools are the most selective in the UK and that GCSEs are getting harder, we believe we have got the number right with ten.

2. Do I have to restrict my four option choices to one Language, one Humanity, one Creative Art and one extra Practical/Scientific subject?

No, but such a broad spread would provide a very well-rounded education. Pupils can choose to study one, two or three Modern Foreign Languages, two Humanities or a number of Creative Arts and extra Practical/Scientific subjects. The only restriction is that there is a maximum of four options from the main option table. We will guide individual students to ensure they are following a curriculum that is balanced and, as far as possible, is centred on their interests.

3. Can GCSEs be taken early?

We have a policy of not doing this. In fact, universities rate pupil GCSE/IGCSE qualifications more highly if taken in the same year rather than being accumulated over a number of years. However, for those that have reached Grade 5 in Music theory and Grade 6 instrument (including voice), there is an opportunity to study *Fast Track* Music GCSE in one year in the 4th Year during Wednesday Afternoon Activities. A decision to do this has to be balanced with the principle that our activities programme is designed to provide opportunities outside the academic arena. For some pupils they will also have important team sport or other commitments and these will take priority.

4. What do you provide for very able and interested pupils?

Our heads of academic enrichment organise a programme of intellectual activities that we offer outside the classroom, alongside the extensive co-curricular programme of clubs and activities. We also run an annual *Humphry Davy* Essay Prize for the 4th Year able scientists. We provide *Fast Track* Music GCSE on a Wednesday afternoon for the most talented musicians. For very able and motivated pupils that have no other commitments on Wednesdays, GCSE Electronics has been offered in the past as part of the activities programme beginning in the 3rd Year.

5. Why is Religious Studies part of the compulsory curriculum?

Our Religious Studies curriculum provides opportunities for critical debate where pupils can develop their own informed opinions and defend them articulately. By studying aspects of Islam alongside Christianity pupils can start to understand some of the major topical issues facing our global society. The subject helps to hone key transferable skills such as ethical debate, empathy, self-reflection, evidence gathering and analysis which will be of benefit in other subjects and in developing the individual. The outcomes of ethical debates influence the world, and it is important that pupils leaving Truro School are prepared to engage with the dilemmas which face our complex, pluralist global society.

6. Why do you offer Combined Science as the Core Science rather than a choice of any two from Biology, Chemistry and Physics?

Pupils need a background in Science to help navigate through a scientific and technological world where the three Sciences often intersect. This background is provided by a balanced and coordinated study of all three Sciences. This is necessary for anyone, regardless of whether they wish to pursue a scientific career. Subject specialists teach Biology, Chemistry and Physics separately, but the examination certificate provides two GCSE qualifications. The 3rd Year pupils that are already clear that they wish to pursue non-scientific careers, will be well educated by studying this compulsory core. If they change their minds later, able pupils taking Combined Science and achieving good passes can progress to A Level in each of the three subjects.

7. Why take the Separate Science option?

This option enhances the compulsory balanced Science core with additional lessons in Biology, Chemistry and Physics to cover the extra material required for separate GCSE grades in these subjects. It will reduce the number of remaining options from four to three and is likely to be taken by pupils with a passion for Science who have done well in Biology, Chemistry and Physics so far. It will provide a very strong foundation for A Level in each Science subject.

8. Is it possible to study for Separate Sciences in the reduced time allocated to Combined Science?

No. The quality of teaching and learning suffers if we try to push pupils through courses on limited teaching time. Science should be taught with an investigative approach that is process based and encourages critical thinking and creativity. The appropriate time we are giving to separate courses in Biology, Chemistry and Physics allows us to adopt these more active learning approaches that help promote thinking skills rather than just cramming for an examination.

9. Is it necessary to study a Modern Foreign Language?

It is not necessary, but it is strongly advisable. Increasingly, universities look to pupils having a language qualification as part of a rounded set of skills and language skills are highly regarded by employers; in a global economy, a second language is important. To apply to a university in the United States, there is a minimum requirement of five GCSE passes which includes a Language. In the Republic of Ireland, you will also need to offer a pass grade at GCSE in a Modern Foreign Language. Over half of undergraduate courses in mainland Europe are now taught in the English language, however, it is advisable to take some language courses now and whilst studying in order to have at least a working knowledge of the host country's language, particularly for courses such as Medicine which require pupils to work in clinics with patients who may not speak English. For pupils thinking of such a future career, we would recommend taking a language up to at least GCSE level, in order to develop the learning skills as well as a specific

language in itself. University College London (UCL) requires students to have either a GCSE pass in a second language or to take an equivalent language course whilst studying for their degree. Pupils wishing to study a language at A Level will need the IGCSE qualification in that language.

10. What is an IGCSE?

The 'I' in IGCSE represents 'international'. International GCSEs (IGCSEs) are taken by schools all over the world. They are run by examination boards in this country but are moving to the new 9-1 grading scale at a different pace to GCSEs. The qualification is accepted by all universities. They have become very popular with independent schools due to their rigour and because they often have less cumbersome controlled assessments or coursework. The Independent Schools' Council reported that in 2016, almost half (47.3%) of all Year 11 exam entries were for IGCSE courses.

11. Why do you offer IGCSEs?

Heads of Department select the syllabuses that are most appropriate for our pupils. There are curriculum differences between GCSE and IGCSE courses, and in some cases the material covered in the IGCSE is more engaging for pupils and staff, or is a better preparation for A Level. In some cases, the syllabuses are less prescriptive than their GCSE equivalents and this can also give teachers more freedom to be creative with their teaching. Also, as stated above, IGCSEs have not suffered from frequent government changes in recent years, allowing us to consolidate our schemes of work and improve the teaching and learning. Currently Mathematics, Modern Foreign Languages, English Literature and History follow IGCSE syllabuses.

12. Could the specifications offered by the school change between now and September 2021?

We do not currently intend to change any of our specifications or exam boards between now and the start of the Autumn Term in 2021. However, should a good educational reason arise for us to change specifications, then we may change an exam board or specification, but we will inform affected families when the change has been confirmed.

13. Could any of the courses offered be withdrawn by September 2021?

Should a course be undersubscribed, we may choose to withdraw the course and will inform affected families in time for them to choose alternative options.

14. How many GCSEs are needed to apply for a degree course at Oxford or Cambridge University?

It is not the number, but the quality that matters for Oxbridge and other Russell Group universities – the proportion of subjects in which a student achieved a top grade. Our ten GCSEs provide a sound base for able, gifted and talented pupils to achieve this, whilst taking a full part in the Academic Scholars programme and maintaining a healthy diet of co-curricular involvement.

15. What is a pass at GCSE or IGCSE?

Although a C or 4 is recognised as a pass by the Government, employers and education institutions, the new 5 grading is being described by the Government as a 'good pass', and the level which would allow progression to A Level in most subjects would be at least a GCSE B or 6 grade, although an A or 7 grade is preferable for most subjects and is required for entry to our Mathematics, Biology, Chemistry and Physics A Level courses.

The chart below shows the relationship between the old and new grading structures. At the top end, around the top 50% of students who previously received an A* grade will now receive a 9 grade.

New grading structure	Current grading structure
9	A*
8	A*
7	A
6	B
5	B
4	C
3	D
2	E
1	F
1	G
U	U

GOOD PASS (DfE)
5 and above = top of C and above

AWARDING
4 and above = bottom of C and above